**Opportunity Cost: A Primer**

The first step to making good decisions is to think about the trade-offs involved.   This primer explains how measuring opportunity cost can help you find the trade-off that lurks within every decision.

        Let's begin by analyzing a typical decision carefully, just as a coach might videotape a tennis player's stroke and then study it frame by frame.

       Suppose that Jim is about to purchase a CD of his favorite singer.  Let's see what goes on in his mind as he makes his decision.

        Jim first looks at the songs and thinks about the hours of pleasure he would get listening to them.  In economic terms, he determines the benefit he expects to get from the CD.  Next, he glances at the price tag to see how much it costs -- $15.  Jim determines that the CD's benefit exceeds its cost, so he decides to buy it.

         To make his decision, Jim followed a simple rule:  Do something if its benefit outweighs its cost.  To see if Jim's rule is a good one, let's try it out on another problem.  Suppose a woman is walking along down the street when she sees a dime on the sidewalk.  Should she pick it up?

            Yes, you may be thinking.  If she picks up the dime, she gets a benefit of 10 cents.  On the other hand, it doesn't cost her anything to pick it up.  The benefit clearly outweighs the cost.

            But what if the woman is Madonna, and she's hurrying to a recording studio where a symphony orchestra is waiting to perform with her.  Do you still think she should stop and pick up the dime?

            It's clearly not worth her time.  Perhaps Jim's rule needs to be modified, say to this:   Do something if its benefit outweighs its cost unless you're a famous singer.  Or a movie star, or President of the United States, or a brain surgeon.

            But there's a simpler way.  We can greatly improve Jim's decision-making rule by adding just one word.  Here's the rule for deciding whether it's in your own best interest to do something:

**Do something if its benefit outweighs its opportunity cost.**

    When asked how much something costs, people usually answer by giving its price, or money cost.  Economists usually measure cost differently, using what they call opportunity cost, defined as the value of the next best alternative opportunity that is given up in order to do something.

     Here's how to calculate it.  When considering a choice, ask yourself three questions:

1.  What alternative opportunities are there?  
2.  Which is the best of these alternative opportunities?  
3.  What would I gain if I selected my best alternative opportunity instead of the choice I'm considering?

     The answer to the third question is the opportunity cost of the choice.

     To find out the opportunity cost to Madonna of picking up the dime, we need to come up with her alternative opportunities and select the best one. Let's assume that Madonna's best alternative to picking up the dime would be to leave it on the sidewalk and arrive at the recording studio 30 seconds sooner.

     The value of those 30 extra seconds at the recording studio is the opportunity cost to her of picking up the dime.  She should compare the benefit she'd get from picking up the dime (10 cents) with its opportunity cost (arriving 30 seconds sooner at the recording studio) to decide what to do.

          When we compare the opportunity cost of picking up the dime with the benefit, we can see that it doesn't make sense for Madonna to retrieve it.  Her time would be better spent at the recording studio.  Perhaps a child─whose time isn't worth as much─will come along later and decide to pick up the dime.

**Opportunity cost and trade-offs**

          Let's have Jim decide again whether to buy the CD, this time using opportunity cost instead of money cost.  As before, he should first consider the benefit he'd get from the CD, and look at its price tag.  But before making a decision, Jim should consider alternative opportunities -- other things that he could do with the $15.  Suppose his best alternative is to buy a pair of $15 sunglasses.  The value to him of the sunglasses represents the opportunity cost of the CD.

          As he decides whether to buy the CD, he should compare its benefit with its opportunity cost -- the sunglasses.  If the benefit (the value to Jim of the CD) outweighs the opportunity cost (the value to Jim of the sunglasses), then he should buy the CD.  If the benefit is less than the opportunity cost, then he shouldn't buy it.

          In other words, thinking about the opportunity cost of buying a CD expresses the problem as a choice between the CD and the sunglasses. This is precisely why opportunity cost is such a powerful decision-making tool.  It shows a decision for what it really is -- a trade-off between your two best alternatives.

           As another example, consider a government proposal to build a new dam.  Here's how a poor decision-maker might view the problem:

*"If we build a dam, we'll have better flood control and cheaper electricity.  If we don't, then we'll experience occasional flooding, and electricity will be more expensive."*

      Here the choice seems to be between having a dam and not having a dam.  When put that way, it's tempting to choose to build the dam.  Cheaper electricity and flood control are better than expensive electricity and floods.

          Here's another way of presenting the problem:

*"If we build the dam, it will provide us with flood control and cheaper electricity, but it will cost us $100 million."*

     This decision-maker recognizes that something must be given up to build a dam.  There's a trade-off.  This is better, but still not the best way to view a decision.  When we think of the cost in dollars, the trade-off we're facing is often unclear.  It's hard for most people to imagine how much $100 million is, and we don't know whether the money could be put to better use elsewhere.

          Here's how an economist would view the problem:

*"If we build the dam, we'll have flood control and cheaper electricity.  But the $100 million to build the dam could be used instead to build two new high schools."*

     Here, the benefit of the dam is compared with its opportunity cost:  new high schools.  Expressed that way, the cost of the dam becomes much more concrete.   Besides, it's not really money that we're sacrificing when we build a dam, but rather resources -- workers, machines, cement, and land -- that could be used elsewhere.  If money were the only thing we sacrificed, there would be no trade-offs; our government could buy us everything we wanted simply by printing more money, preferably in very large denominations.

**Using opportunity cost -- an example**

        Ernesto is trying to decide whether to attend college and has determined the money cost of attending college for one year.

**Money Cost of a Year of College**

Tuition:                      $1,000  
Books and school supplies:     2,000  
Room and board:               10,000  
Transportation:                1,000  
Miscellaneous expenses:        3,000  
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Total money cost:            $17,000

        This tells Ernesto how much money he'll need to come up with if he decides to go to college.

         But in order to decide whether to go to college, Ernesto should figure out its opportunity cost.  The first step is for Ernesto to determine the best alternative to going to college.  Let's say that it's working full time at the local Drive-In.  The opportunity cost of going to college, then, is the value of what he would gain if he worked instead of going to college.

           If Ernesto worked, he wouldn’t have to pay for tuition, books, or school supplies.  He also would earn $10,000 during the year that she worked.  The opportunity cost of a year of college, therefore, is:

**Opportunity** **Cost of a Year of College**

Tuition:                      $ 1,000  
Books and school supplies:      2,000  
Foregone wages from working:   10,000  
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Total opportunity cost:      $13,000

This tells Ernesto how much he'd have to spend on other things if he decided not to go to college.

          You may be wondering why we didn't include room and board, transportation, entertainment, and miscellaneous expenses in the opportunity cost calculation.  Wouldn't Ernesto have these expenses at college?

           Yes, he would, but he also would face these costs if he decided to work.  Remember, opportunity cost includes only the value of what one would gain under the next best alternative opportunity.  Ernesto can't get out of paying for room and board, transportation, and entertainment by working.  These expenses, therefore, should not be included in the opportunity cost of going to college.

           The opportunity cost of going to college -- $13,000 -- tells Ernesto what he would gain if he chose not to go to college. When deciding whether to go to college, he should weigh that cost against the benefits of college, like higher future earnings, new friends, and a better understanding of our world.

**Sunk Costs**

Just as Eskimos have lots of words to describe snow, economists have lots of words to describe cost.  This section introduces sunk costs.

**Sunk costs** are costs that must be paid whether or not you do something. They're of special interest to us because we don't want to include them when calculating opportunity cost.  Unfortunately, sunk costs are like invasive weeds; it's often hard to yank them out of a problem.

To see why sunk costs should be ignored, let's go back to Sheila, who has had her car for a week now.  She has just returned home from school and she's trying to decide whether to go out and see a movie.

To figure out the opportunity cost of seeing a movie, Sheila first determines her best alternative opportunity.  Let's assume that it's to stay home and do homework.  Next, she lists all the things that she would gain if she stayed home and did homework instead of watching a movie.

**Opportunity** **Cost of Going to a Movie**

Time to do homework:                   3 hours  
Gas and parking:                            $1.50  
Admission to the theater:               $2.00  
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Opportunity Cost:                3 hours and $3.50

Notice that Sheila correctly includes gas and parking in her opportunity cost calculations.  But what about all the other costs associated with owning a car, like insurance and registration fees?  Shouldn't she include them as part of the opportunity cost of going to a movie?

The answer is no.  If Sheila stayed home, she'd still have to pay the same insurance and registration fees.  She can't reduce these costs by staying home.

Insurance and registration fees are examples of sunk costs.   Sunk costs can't be recovered by choosing the best alternative opportunity.  That's why economists use the following rule when calculating the opportunity cost of something:

**Ignore sunk costs**.

Now suppose that Sheila decides to go to the movie and her little brother asks to come along.  He will pay for his own admission.  What is the opportunity cost to Sheila of bringing him?

The answer is nothing at all.  Since Sheila has already decided to go to the movie theater, the expense of driving there has become a sunk cost -- she will incur that expense whether or not her brother comes.  She doesn't sacrifice anything by bringing him along, unless, of course, he's obnoxious.

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